

# CEF3

# Diversity, Equity, and Inclusion

Big Questions in Particle Physics: Community  
Snowmass Early Career Core Initiatives Group  
27 May 2022

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- Inclusion: Providing a welcoming space to any individual
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- DEI/EDI: Loosely defined term, over-absorbed varies of responsibilities
  - Catch-all category for issues calling for action on cultural change
  - How can we define our goals to ask targeted questions aimed for change?

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- Community Consensus on DEI issues
  - Ignorance is a major component of slow progress
  - Consensus vs majority vs de facto activism

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- Prioritize digestibility of document
  - Will be read by Snowmass organizers + community + funding agencies
  - Avoid a reference document within a narrative summary of the TG

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and

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The purpose of this white paper is to describe how unfair power dynamics related to various aspects of identity—race, gender identity, gender expression, sexual orientation, and ability status—operate in physics settings and offer concrete steps that one can take to make our discipline more equitable and just.

#### *Power Plays*

Given the nature and history of racism, all white people have been socialized to hold a number of racist beliefs yet spend a considerable amount of time attempting to distance themselves from this fact. The result is racial harm done unto BIPOC people on a daily basis; their accounts of this harm are routinely dismissed because of the sincere belief that intention matters more than impact, and that “nice” people cannot be racist.

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Attempts to Stand Straight in a Crooked Room. Intersectionality methodology guides our understanding of the experiences of BIPOC women and allows us to see the different oppressions that they must navigate despite our society’s tendency to obscure it.

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This paper addresses issues related to the process of informal socialization into physics, particularly for senior graduate students and postdoctoral scholars. Many physicists’ careers are built on the relationships they have and develop during these critical years.

#### *Socialization and Personal Agency*

The common conceptualization of mentoring is too broad to truly improve the experience and increase the success of novice scientists. Protégés will benefit much more if they take time to reflect and identify their needs before selecting a group of mentors, rather than relying solely on one person for support. This self-reflection also allows novice scientists to better understand what they are looking for, and perhaps also what to avoid so that they have the best experience possible.

#### *Pitfalls and Potholes*

Far too often, novice BIPOC scientists do not find a support network that is strong enough to counter the racism and isolation they face. There are little to no structures in place to prevent this—finding the right network is up to chance, and those who are not lucky often leave physics or STEM entirely. On the other hand, sometimes BIPOC women will find that they are being embraced by their physics community but for all the wrong reasons, and for only a fleeting time. The transition from pet to threat takes a toll both emotionally and professionally, and often leads to a difficult choice between career progression in a toxic environment, or starting over someplace safe.

#### *Lessons Learned*

Race matters in all settings, and claims of objectivity in physics are more of a dream than reality. Established physicists, particularly those in positions of power related to hiring and admissions, must understand how race functions in meritocracy, so that they may make more equitable decisions. The work continues as new hires and new students enter an institution and confront its culture. While a toxic culture and racism cannot be resolved overnight, faculty can begin to communicate nonverbal signs of value to their students and mentees immediately.

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#### EXECUTIVE SUMMARY

The purpose of this white paper is to lay out the impacts of policing and gatekeeping in STEM, illustrated with lived experiences of scientists of color who are achieving despite the daunting challenges they face.

#### *Policing*

People around the world were impacted by the extrajudicial murders of Ahmaud Arbery, Breonna Taylor, and George Floyd. The effect on black people, including black scientists, was profound. In this paper, we described direct experiences black scientists have had with policing, as well as the trauma black scientists experience each time a murder like this is reported. This suffering is compounded when colleagues and peers seem oblivious and unaffected, leaving black scientists further isolated in an already unwelcoming environment.

#### *Gatekeeping*

In practice, gatekeeping comprises a set of behaviors, practices, and traditions, backed up by individual and organizational power to guard the boundaries of the discipline. Unfortunately, many people who bear the brunt of systemic oppression, receive multiple messages that they do NOT belong. For some, these accumulate to push them firmly outside of the boundaries, and they leave.

Even when gatekeeping fails to achieve its ultimate goal, smaller encounters exact time and emotional labor from the targets of oppression, reducing the time and energy they have available for their scientific work. Further, biases that impact how scientists efforts are judged have led to exclusions from opportunities and funding, which lead to further losses.

#### *Comfort and Safety*

We invite readers to wrestle with the difference between feeling unsafe and actually being unsafe. Using the experiences of real people, we describe productive enactments of this tension, and reveal the benefits of accepting this struggle as ongoing and endless.

#### *Take-Aways*

The paper concludes with an account of how even a well-intentioned, self-described social activist can cause harm, contrasted against someone working daily to create an inclusive environment for everyone to work and learn.



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#### Gatekeeping

In practice, gatekeeping comprises a set of behaviors, practices, and traditions, backed up by individual and organizational power to guard the boundaries of the discipline. Unfortunately, many people who bear the brunt of systemic oppression, receive multiple messages that they do NOT belong. For some, these accumulate to push them firmly outside of the boundaries, and they leave.

Even when gatekeeping fails to achieve its ultimate goal, smaller encounters exact time and emotional labor from the targets of oppression, reducing the time and energy they have available for their scientific work. Further, biases that impact how scientists’ efforts are judged have led to exclusions from opportunities and funding, which lead to further losses.

#### Comfort and Safety

We invite readers to wrestle with the difference between feeling unsafe and actually being unsafe. Using the experiences of real people, we describe productive enactments of this tension, and reveal the benefits of accepting this struggle as ongoing and endless.

#### Take-Aways

The paper concludes with an account of how even a well-intentioned, self-described social activist can cause harm, contrasted against someone working daily to create an inclusive environment for everyone to work and learn.

# Lightning Summary of CPs

## Part 2/2 (6+1 CPs)

### Climate of the Field: Snowmass 2021

Erin V Hansen<sup>1</sup>, Erica Smith<sup>2</sup>, Deborah Bard<sup>3</sup>, Matthew Bellis<sup>4</sup>, Jessica Esquivel<sup>5</sup>, Tiffany R. Lewis<sup>6,7</sup>, Cameron Geddes<sup>8</sup>, Cindy Joe<sup>5</sup>, Alex G. Kim<sup>8</sup>, Asmita Patel<sup>8</sup>, and Vitaly Pronskikh<sup>5</sup>

#### Abstract

How are formal policies put in place to create an inclusive, equitable, safe environment? How do these differ between different communities of practice (institutions, labs, collaborations, working groups)? What policies towards a more equitable community are working? For those that aren't working, what external support is needed in order to make them more effective?

We present a discussion of the current climate of the field in high energy particle physics and astrophysics (HEPA), as well as current efforts toward making the community a more diverse, inclusive, and equitable environment. We also present issues facing both institutions and HEPA collaborations, with a set of interviews with a selection of HEPA collaboration DEI leaders.

We encourage the HEPA community and the institutions & agencies that support it to think critically about the prioritization of *people* in HEPA over the coming decade, and what resources and policies need to be in place in order to protect and elevate minoritized populations within the HEPA community.

### STRATEGIES IN EDUCATION, OUTREACH, AND INCLUSION TO ENHANCE THE US WORKFORCE IN ACCELERATOR SCIENCE AND ENGINEERING\*

M. Bai (SLAC), W.A. Barletta (MIT), D.L. Bruhwiler (RadiaSoft LLC), S. Chattopadhyay (FNAL/NIU), Y. Hao (MSU/BNL), S. Holder (SLAC), J. Holzbauer (FNAL), Z. Huang (SLAC), K. Harkay (ANL), Y.-K. Kim (UChicago & CBB), X. Lu (NIU/ANL), S.M. Lund (MSU/USPAS), N. Neveu (SLAC), P. Ostroumov, (MSU), J. R. Patterson (Cornell/CBB), P. Piot (NIU/ANL/CBB), T. Satogata (JLab), A. Seryi (JLAB/ODU), A.K. Soha (FNAL), S. Winchester (USPAS/FNAL)

#### Abstract

We summarize the community-based consensus for improvements concerning education, public outreach, and inclusion in Accelerator Science and Engineering that will enhance the workforce in the USA. The improvements identified reflect the product of discussions held within the 2021-2022 Snowmass community planning process by topical group AF1: *Beam Physics and Accelerator Education* within the *Accelerator Frontier*. Although the Snowmass process centers on high-energy physics, this document outlines required improvements for the entire U.S. accelerator science and engineering enterprise because education of those entering and in the field, outreach to the public, and inclusion are inextricably linked.

### Accessibility in High Energy Physics: Lessons from the Snowmass Process

K.A. Assamagan<sup>1</sup>, C. Bonifazi<sup>2</sup>, J.S. Bonilla<sup>3</sup>, P.A. Breur<sup>4</sup>, M.-C. Chen<sup>5</sup>, A. Roepe-Gier<sup>6</sup>, Y.H. Lin<sup>\*7</sup>, S. Meehan<sup>8</sup>, M.E. Monzani<sup>9,10,11</sup>, E. Novitski<sup>12</sup>, and G. Stark<sup>13</sup>

#### ABSTRACT

Accessibility to participation in the high energy physics community can be impeded by many barriers. These barriers must be acknowledged and addressed to make access more equitable in the future. An accessibility survey, the Snowmass Summer Study attendance survey, and an improved accessibility survey were sent to the Snowmass2021 community. This paper will summarize and present the barriers that prevent people from participating in the Snowmass2021 process, recommendations for the various barriers, and discussions of resources and funding needed to enact these recommendations, based on the results of all three surveys, along with community members' personal experiences.

### Lifestyle and personal wellness in particle physics research activities

Tiffany R. Lewis<sup>1,2</sup>, Sara M. Simon<sup>3</sup>, Carla Bonifazi<sup>4,5</sup>, Savannah Thais<sup>6</sup>, Johan Sebastian Bonilla Castro<sup>7</sup>, and Kétévi A. Assamagan<sup>8</sup>

#### ABSTRACT

Finding a balance between professional responsibilities and personal priorities is a great challenge of contemporary life and particularly within the HEPAC community. Failure to achieve a proper balance often leads to different degrees of mental and physical issues and affects work performance. In this paper, we discuss some of the main causes that lead to the imbalance between work and personal life in our academic field. We present some recommendations in order to establish mechanisms to create a healthier and more equitable work environment, for the different members of our community at the different levels of their careers.

### In Search of Excellence and Equity in Physics

Emanuela Barzi, *Fermi National Accelerator Laboratory, Batavia, IL 60510, USA, and Ohio State University, Columbus, OH 43210, USA*

S. James Gates, Jr., *Brown Theoretical Physics Center, Brown University, Providence, RI 02912, USA*

Roxanne Springer, *Duke University, Durham, NC 27708, USA*

### Why should the U.S. care about high energy physics in Africa and Latin America?

Kétévi A. Assamagan<sup>a,\*</sup>, Carla Bonifazi<sup>b</sup>, Johan Sebastian Bonilla Castro<sup>c</sup>, Claire David<sup>d</sup>, Claudio Dib<sup>e</sup>, Lucílio Dos Santos Matias<sup>f</sup>, Samuel Meehan<sup>g</sup>, Gopolang Mohlabeng<sup>h</sup>, Azwinndini Muronga<sup>i</sup>

#### Abstract

Research, education and training in high energy physics (HEP) often draw international collaborations even when priorities and long term visions are defined regionally or nationally. Yet in many developing regions, HEP activities are limited in both human capacity and expertise, as well as in resource mobilisation. In this paper, the benefits – to the U.S. HEP program – of engagements with developing countries are identified and studied through specific examples of Africa and Latin America; conversely, the impact of HEP education and research for developing countries are also pointed out. In the context of the U.S. strategic planning for high energy physics, the authors list recommendations on investments that will benefit both developed and developing nations.

### Building a Culture of Equitable Access and Success for Marginalized Members in Today's Particle Physics Community

Olivia M. Bitter<sup>1,2</sup>, Mu-Chun Chen<sup>3</sup>, Ami Choi<sup>4</sup>, Jessica Esquivel<sup>1</sup>, Kathryn Jepsen<sup>5</sup>, Tiffany R. Lewis<sup>6,7</sup>, Yuanyuan Zhang<sup>8</sup>, Azwinndini Muronga<sup>9</sup>, Lucianne Walkowicz<sup>10</sup>, and Kétévi A. Assamagan<sup>11</sup>

Over the past decade, the particle physics community has devised programs to support diversity along multiple axes and the way that we think about measuring and implementing inclusion initiatives has evolved. DEIA in physics consists of a broad set of aspects, and here we focus on the experience of marginalized communities, i.e. demographic groups that are underrepresented in particle physics for reasons unrelated to their intelligence, scientific abilities, or potential to make significant contributions to science. We make specific recommendations to establish a benchmark plan for the next Snowmass that includes a decade spent on implementation of funding outreach, encouraging open networking, and removing inappropriate hurdles to career progression, in order to build a more equitable culture within high-energy physics. Of particular importance in evaluating the degree of exclusion and future improvements is to prioritize the confidential collection of demographic data in all forms of grant proposals, facility staffing (including early career, contractors and support roles), and collaboration membership. It is not possible to gauge progress for inclusion without measurement of it. We strongly recommend the establishment of a cross-institutional ethics panel that is trained and empowered by mutual legal agreements with institutions and collaborations to track professional misconduct as defined in agreed upon standards of conduct, and where appropriate recommend censure from specific professional activities or leadership roles. Scientists who identify with one or more marginalized communities report greater incidents of misconduct against their presence or person and

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- We welcome any other topics not covered, there is space to elaborate!

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Examples from  
Climate of The Field CP

**HEPA communities must engage in partnership with scholars, professionals, and other experts in several disciplines, including but not limited to anti-racism, critical race theory, and social science.**

- C3.1 Experts should be adequately integrated into HEPA communities, including collaborations, such that their expertise can be applied effectively. This may take the form of an official collaboration role like a non-voting member of a collaboration council.

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- **Genuine individual self-reflection**

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- U.S. institutes to partner with Latin America and Africa in establishing bridge programs to facilitate the eventual re-integration of physicists from Africa and Latin America into their countries;
- U.S. institutes to support students and faculties from Africa and Latin American to come to U.S. laboratories and universities for research experience programs with short-term visits (three to six months);
- Organizations collectively representing U.S. National Laboratories and Universities in international collaborations should recognize the disparity in economic capabilities of countries in Africa and Latin America compared to the U.S., and in order to best support the development of HEP in these countries, should support and lead initiatives for more equitable contributions (e.g. membership and operations fees for participation in large collaboration, conference fee waivers and travel support to U.S. based meetings, etc).

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## Recommendations for Funding Agencies

**HEPA communities must employ the use of robust strategic planning procedures, including a full re-envisioning of science workplace norms and culture.**

F1.1 Prioritization of climate-related issues at the funding level. This might include the inclusion of climate-related topics into safety parts of collaboration “Operational Readiness Reviews,” “Conceptual Design Reviews,” or similar documentation submitted to funding agencies.

**HEPA communities must implement new modes of community organizing and decision-making that promote agency and leadership from all stakeholders within the scientific community.**

F2.1 Funding agencies should facilitate Climate Community Studies, instead of leaving such studies up to individual communities to complete. In line with F3.2, these studies should be informed by expertise in social and organizational dynamics.

**HEPA communities must engage in partnership with scholars, professionals, and other experts in several disciplines, including but not limited to anti-racism, critical race theory, and social science.**

F3.1 Funding should be made available to both engage with and compensate such experts. This can take the form of independent grants, but more effective would be the inclusion of climate-related topics into safety components of collaboration “Operational Readiness Reviews,” “Conceptual Design Reviews,” or similar documentation submitted to funding agencies.

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  - Codes of Conduct and DEI/ethics committees becoming commonplace, but institutional change seems a long way away. **Why are we willing to wait?**
  - We've grown as a CEF community, can we say that about all Snowmass?

# Backup



# (WIP) Structure of Topical Group Report

[Link to Overleaf of  
CEF3 Topical Group Report](#)

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